

Advisory Council on Clean Air Compliance Analysis, whose chair sits on the SAB Executive Committee, identified that a "major effort" was needed "to develop credible methods to quantify and monetize the effects of marginal changes in air pollution on ecosystem processes" and to include non-market ecosystem services in future Section 812 reports (*Draft Analytical Plan for EPA's Second Prospective Analysis—Benefits and costs of the Clean Air Act, 1990–2020: An Advisory by the Advisory Council for Clean Air Compliance* EPA–SAB–COUNCIL–ADV–01–004). The Council advised the Agency to develop a major review of the economic literature focusing on the valuation of ecological systems and services, with the purpose of differentiating results more useful for the Agency's 812 analysis of ecological benefits from those less useful.

The SAB notes that the new Panel is likely to address many of the issues raised in a 2001 SAB report, *Toward Integrated Environmental Decision Making* (EPA–SAB–EC–00–011). That report noted the following impediments to the valuing of ecological systems and services: difficulty translating changes in ecological conditions into monetary units; difficulty measuring values placed on keeping ecosystems viable ("existence values") because the public often does not have knowledge about ecological impacts; difficulty finding ecological services reflected well in markets; and difficulty measuring values such as equity and sustainability. The report also cited the following needs: better methods to estimate value the public places on protecting ecological conditions; better methods to incorporate values and preferences into decision-making; and more open dialogue among scientists and between scientists and decision makers.

The Board notes that many of these issues were also discussed at a joint EPA/SAB workshop in 2001, and documented in the report: *Understanding Public Values and Attitudes Related to Ecological Risk Management: An SAB Workshop Report of an EPA/SAB Workshop* (EPA–SAB–EC–WKSP–01–001). The workshop was a public meeting designed to demonstrate how researchers using different kinds of analytical methods, tools, and approaches from the social sciences can mutually inform each other and risk managers in understanding: (a) Public values and attitudes related to specific threats to ecological resources, such as Tampa Bay Estuary, a body of water threatened with nitrogen deposition and (b) the significance of those values to decision makers. The

Report identified opportunities to improve consideration of values in environmental decision making in the following areas: environmental science; social, economic and behavioral sciences; actions to be taken by policy makers and their roles; roles and requirements of stakeholders; and research development and research needs.

4. *Proposed Charge to the Panel:* The Executive Committee notes that the panel will need to synthesize the existing serious work already invested on this issue and currently underway elsewhere and define and steer distinct activities where the SAB can add value to those efforts. Currently, the National Academy of Sciences is working on a project titled "Assessing and Valuing of Aquatic Ecosystem Services." This project, which is being co-sponsored by the EPA, is meant to "evaluate methods for assessing services and associated economic values of aquatic and related terrestrial ecosystems. The Executive Committee desires coordination with efforts such as this one, so that the panel builds on the information and advice developed. It envisions a multi-year effort to build upon and go beyond past guidance and efforts to support the Agency's valuation methods. The SAB's effort would identify research needs to improve valuing of ecological resources and identify scientifically appropriate methods and suite of tools to be used to assist decision making to protect ecological resources. The Executive Committee envisions that the Panel will plan and conduct a series of activities designed to accomplish the following:

(a) Enhance the ability of ecological, economic, social, and technological analysis to contribute useful assessment of the value of changes in and the protection of ecosystems and ecosystem services.

(b) Explore alternative approaches (e.g., benefit-cost analysis, ecological analysis, and the analysis of public concerns and values) in terms of the soundness and reliability of the methods involved, the current evidentiary base associated with each, data gaps, and potential contributions to decision making.

(c) Identify research needs and priorities for the further development of each of these approaches and to explore innovative strategies to encourage new research and new investigators to address the value of ecological systems and services.

(d) Compare the different approaches, identifying areas of convergence and divergence and the potential for developing more integrative and synthetic approaches.

(e) Make recommendations as to how these alternative approaches may inform and be incorporated in the Agency's valuing the protection of ecological systems and services and to contribute to the work of other SAB committees.

Specific activities to respond to this charge are to be defined by the new SAB Panel.

5. *SAB Request for Nominations:* Any interested person or organization may nominate qualified individuals for membership on the Subcommittee. Individuals should have expertise in one or more of the following areas:

- (a) Decision Science
- (b) Ecology
- (c) Economics
- (d) Engineering
- (e) Psychology
- (f) Social Sciences with emphasis in ecosystem protection

Prior experience that involved valuing of ecosystems and services according to a structured scientific method is desirable.

6. *Process and Deadline for Submitting Nominations:* Any interested person or organization may nominate qualified individuals to add expertise in the above areas Panel. Nominations should be submitted in electronic format through the Form for Nominating Individuals to Panels of the EPA Science Advisory Board provided on the SAB Web site. The form can be accessed through a link on the blue navigational bar on the SAB Web site, **MACROBUTTON HtmlResAnchor** <http://www.epa.gov/sab>. To be considered, all nominations must include the information required on that form.

Anyone who is unable to submit nominations using this form may contact Dr. Angela Nugent at the mailing address above. Nominations should be submitted in time to arrive no later than 21 days after the publication date of this **Federal Register** Notice. Any questions concerning either this process or any other aspects notice should be directed to Dr. Nugent.

The EPA Science Advisory Board will acknowledge receipt of the nomination and inform nominators of the panel selected. From the nominees identified by respondents to this **Federal Register** notice (termed the "Widecast"), SAB Staff will develop a smaller subset (known as the "Short List") for more detailed consideration. Criteria used by the SAB Staff in developing this Short List are given at the end of the following paragraph. The Short List will be posted on the SAB Web site at: <http://www.epa.gov/sab>, and will include, for each candidate, the nominee's name and